

09/687855  
STN search summary

=> d his

- FILE 'CAPLUS' ENTERED AT 16:33:52 ON 18 APR 2004  
L1 632 S MATA OR MATB OR MATC OR MATABC OR MATBC  
L2 14 S L1 AND (STREPTOMYCES OR COELICOLOR OR RHIZOBIUM OR TRIFOLI)  
  
L2 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:994209 CAPLUS  
TI Biofertilizers with natural phosphate, sulphur and Acidithiobacillus in a soil with low available-P  
SO Scientia Agricola (Piracicaba, Brazil) (2003), 60(4), 767-773  
  
L2 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:694139 CAPLUS  
TI Metabolic engineering of Escherichia coli for improved 6-deoxyerythronolide B production  
AU Murli, Sumati; Kennedy, Jonathan; Dayem, Linda C.; Carney, John R.; Kealey, James T.  
SO Journal of Industrial Microbiology & Biotechnology (2003), 30(8), 500-509  
  
L2 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:942108 CAPLUS  
TI Symbiotic effects of .DELTA.matB Rhizobium leguminosarum bv. trifolii mutant on clovers  
SO Molecules and Cells (2002), 14(2), 261-266  
  
L2 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:795899 CAPLUS  
TI Malonate metabolism: biochemistry, molecular biology, physiology, and industrial application  
SO Journal of Biochemistry and Molecular Biology (2002), 35(5), 443-451  
  
L2 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:676167 CAPLUS  
TI Biosynthesis of unusual substrates for polyketide synthases and their use in the biosynthesis of novel polyketides  
SO PCT Int. Appl., 80 pp.  
PATENT NO. KIND DATE APPLICATION NO. DATE  
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PI WO 2002068613 A1 20020906 WO 2002-US6399 20020228TG  
US 2002045220 A1 20020418 US 2001-798033 20010228  
EP 1381672 A1 20040121 EP 2002-725059 20020228  
PRAI US 2001-798033 A 20010228  
US 2002-355211P P 20020208  
US 1999-159090P✓ P 19991013  
US 2000-206082P✓ P 200000518  
US 2000-232379P✓ P 200000914  
US 2000-687855 A2 20001013  
WO 2002-US6399 W 20020228  
  
L2 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:670698 CAPLUS  
TI Transcription of matR gene in Rhizobium leguminosarum bv. trifolii  
SO Journal of Biochemistry, Molecular Biology and Biophysics (2002), 6(4), 283-288

- L2 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:580617 CAPLUS  
TI Identification of amino acid residues in the carboxyl terminus required for malonate-responsive transcriptional regulation of MatR in *Rhizobium leguminosarum* bv. *trifolii*  
SO *Journal of Biochemistry and Molecular Biology* (2001), 34(4), 305-309
- L2 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:435605 CAPLUS  
TI **Enhancing the Atom Economy of Polyketide Biosynthetic Processes through Metabolic Engineering**  
SO *Biotechnology Progress* (2001), 17(4), 612-617
- L2 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:26676 CAPLUS  
TI Identification and characterization of a novel transcriptional regulator, MatR, for malonate metabolism in *Rhizobium leguminosarum* bv. *trifolii*  
SO *European Journal of Biochemistry* (2000), 267(24), 7224-7229
- L2 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:682917 CAPLUS  
TI Fractionation and kinetics of in vitro degradation of grazed forage nitrogenous compounds from cattle on pasture  
SO *Revista Brasileira de Zootecnia* (2000), 29(3), 880-888
- L2 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1999:718653 CAPLUS  
TI Nitrogen and molybdenum fertilization of the common bean crop in the "Zona da Mata" region, Minas Gerais State, Brazil  
SO *Revista Brasileira de Ciencia do Solo* (1999), 23(3), 643-650
- L2 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1999:525709 CAPLUS  
TI Properties of malonyl-CoA decarboxylase from *Rhizobium trifolii*  
AU An, Jae Hyung; Lee, Gha Young; Song, Jong Hee; Lee, Dai Woon; Kim, Yu Sam  
SO *Journal of Biochemistry and Molecular Biology* (1999), 32(4), 414-418
- L2 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1999:148564 CAPLUS  
TI Analysis of Phaseolus-Rhizobium interactions in a subsistence farming system  
SO *Plant and Soil* (1998), 204(1), 107-115
- L2 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:711601 CAPLUS  
TI A gene cluster encoding malonyl-CoA decarboxylase (MatA), malonyl-CoA synthetase (MatB) and a putative dicarboxylate carrier protein (MatC) in *Rhizobium trifolii*. Cloning, sequencing, and expression of the enzymes in *Escherichia coli*  
SO *European Journal of Biochemistry* (1998), 257(2), 395-402

=> s 1999:525709/an  
L1 1 1999:525709/AN

=> d abs

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

AB A novel gene for malonyl-CoA decarboxylase was discovered in the mat operon, which encodes a set of genes involved in the malonate metabolism of Rhizobium trifolii (An and Kim, 1998). The subunit mass determined by SDS-PAGE was 53 kDa, which correspond to the deduced mass from the sequence data. The mol. mass of the native enzyme determined by field flow fractionation was 208 kDa, indicating that R. trifolii malonyl-CoA decarboxylase is homotetrameric. R. trifolii malonyl-CoA decarboxylase converted malonyl-CoA to acetyl-CoA with a specific activity of 100 unit/mg protein. Methylmalonyl-CoA was decarboxylated with a specific activity of 0.1 unit/mg protein. P-Chloromercuribenzoate inhibited this enzyme activity, suggesting that thiol group(s) is(are) essential for this enzyme catalysis. Database anal. showed that malonyl-CoA decarboxylase from R. trifolii shared 32.7% and 28.1% identity in amino acid sequence with those from goose and human, resp., and it would be located in the cytoplasm. However, there is no sequence homol. between this enzyme and that from Saccharopolyspora erythreus, suggesting that malonyl-CoA decarboxylases from human, goose, and R. trifolii are in the same class, whereas that from S. erythreus is in a different class or even a different enzyme, methylmalonyl-CoA decarboxylase. According to the homol. anal., Cys-214 among three cysteine residues in the enzyme was found in the homologous region, suggesting that the cysteine was located at or near the active site and plays a critical role in catalysis.

## WEST Search History

DATE: Sunday, April 18, 2004

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<input type="checkbox"/>	L12	L11 not l8	11
<input type="checkbox"/>	L11	L10 not l9	12
<input type="checkbox"/>	L10	l3 and (rhizobium or trifoli)	12
<input type="checkbox"/>	L9	L8 not l5	6
<input type="checkbox"/>	L8	L6 same (streptomyces or coelicolor)	9
<input type="checkbox"/>	L7	L6 and (streptomyces or coelicolor)	243
<input type="checkbox"/>	L6	mata or matb or matc or matbc or matabc	2601
<input type="checkbox"/>	L5	L4	3
<i>DB=USPT; PLUR=YES; OP=OR</i>			
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<input type="checkbox"/>	L3	L2 or mata or matb or matc	1459
<input type="checkbox"/>	L2	matbc or matabc	1
<input type="checkbox"/>	L1	6258566.pn.	1

END OF SEARCH HISTORY